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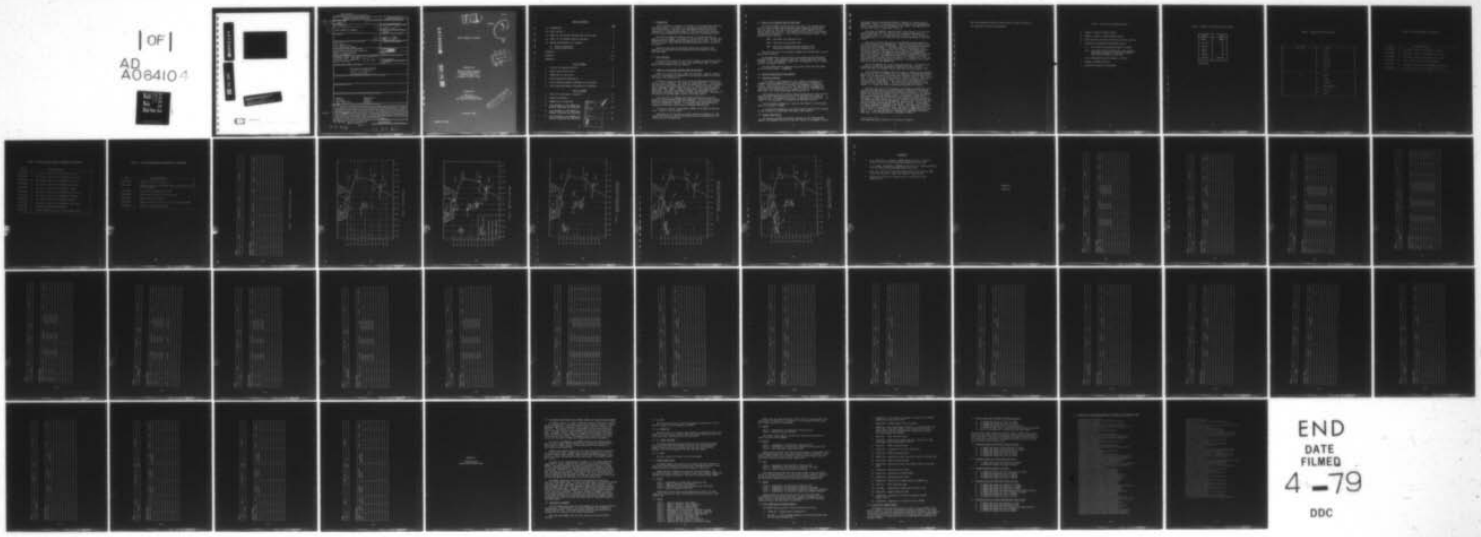

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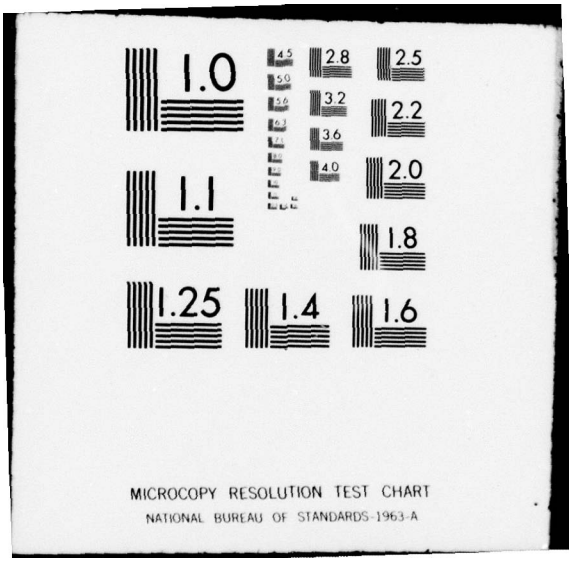
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MICROCOPY RESOLUTION TEST CHART
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7777 Leesburg Pike ■ Falls Church, Va. 22043

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Update	Demonstrate
Data Base	Testing
Alert Capability	Scenario

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Examines the existing distributed data base file allocation models and gives a breakdown of the models by type (deterministic one-phase, deterministic multi-phase, stochastic discrete, stochastic continuous). The relationships and identities used to describe the models are divided into four categories: file information and parameters, transmission characteristics, computer characteristics, and costs. In the investigations which led to this paper it was seen that the means defined were initially very general. The models included relationships which were very detailed in their description of the file allocation problem. In previous analyses using these models, simplifications were often made for computational tractability. Many of the assumptions and models ended up so restricted in scope or detail as to be unrealistic. There is a great need for more work in this area.

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ALERT CAPABILITY SUPPORT

Prepared for

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Falls Church, Virginia 22043

15 October 1978

N00014-77-C-0551

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1.0 INTRODUCTION

In this document, a scenario is described for the Operational Decision Aids (ODA) Program. This scenario is designed to demonstrate the ODA "alerting capability" currently under development by the University of Pennsylvania. The operational scenario is also designed to be compatible with the current ONRODA Warfare situation described in References 1 and 2.

The alerting capability enables the user of the ODA data base to specify a set of criteria. As changes to the data base occur, the Data Base Management System (DBMS) compares the changes to the criteria. If any one of the criteria is satisfied the ODA DBMS automatically alerts the user to this event.

Appendix B describes the automated program that provides fixed updates to the ODA data base and supports the alert capability scenario described below.

2.0 ALERT CRITERIA

A set of alert criteria for use in this scenario is specified in Table 1. The impact of these alert criteria upon the ODA data base is minimal. Details are provided in the next section.

3.0 IMPACT OF THE ALERTING CRITERIA UPON THE DATA BASE

Criteria A-C do not directly impact the data base. They do, however, establish a requirement for implementing the Equipment CASREP File and the Ship Status File (Reference 3).

Criterion D, parts (i) and (iii), can be implemented by specifying a series of alert conditions. For example, suppose that high interest targets are specified as platforms with any of the characteristics given by Table 2. Then a sample alert specification for D(i) is, "Specify alert for contact report with NAME - DODRY." After the first alert, this condition must be deactivated. Note that the element "EMITTER" is a new element that is required for the contact report by this operational scenario. The impact of the scenario on the data base is given in the next section.

Criterion D(ii) is somewhat more complicated because it does not directly involve changing a data base parameter. This criterion requires additional software by personnel at the University of Pennsylvania before it can be implemented. However, it is expected that the capability to implement criteria D(ii) will soon be available (Reference 4).

Criterion E requires a new element, DEFCON, to be added to the data base. Criterion F has no impact.

Additionally, all the Alerts criteria require the addition of a new element DTG, which will contain the date-time group corresponding to the current state of the data base.

4.0 IMPACT OF THE SCENARIO UPON THE DATA BASE

The scenario impacts the data base in four ways. Two changes to the Track File are required, and two elements must be added to the data base. The first effect is the need to add an element called "EMITTER" to the contact report (see Figure 1). Also added to the Track File are parameters for specifying accuracy (i.e., error ellipse) of the contact report. These parameters are as follows:

SMAJ - semi-major axis measured in nm.

SMIN - semi-minor axis measured in nm.

ANGL - the angle in degrees measured clockwise from North to the direction of the semi-major axis

Note that two track file parameters, REPORT UNIT and ASSG UNIT, are not used in this scenario.

As mentioned above, the data base is also affected by the additional parameter DEFCON. This parameter stands for "Defense Condition" and takes on values 1 to 4 corresponding, respectively, to peacetime, crisis, limited conflict, and general conflict.

The new element DTG will maintain the current system date-time group in the following format: YYMMDDHHMM.

5.0 GENERAL DESCRIPTION OF THE SCENARIO

5.1 Scenario Guidelines

As indicated in the Introduction, this scenario is designed to be compatible with the ONRODA Warfare Situation described in References 1 and 2. Positioning for an air blockade (see Reference 2, pages 8-13) involves placing one blue task force, TF1, about 300 nm from ONRODA and about 100 nm from Industrial City, as shown in Figure 2. The other blue task force, TF2, is positioned about 100 nm west of TF1.

The blockade plans also indicate that two guided missile ships from TF1 should be positioned about 100 nm east of TF1 and about 50 nm south of Industrial City. One guided missile ship is deployed to this position. The reason for this deployment is included in the following section.

It is indicated in Reference 1, page 26, that there is a red presence about 150 nm south of ONRODA.

As an additional guideline, only ships listed in the Ship File resident at the University of Pennsylvania are used to this scenario.

5.2 Scenario Description

This scenario presents information available to the "CINC BLUE NAV ONRODA," the Commander-in-Chief of blue naval forces in the ONRODA vicinity.

The scenario begins just before midnight of February 13, specifically at 7702132345. Figure 3 illustrates the track information for the ONRODA area that is available to the blue commander at this time.* The composition of the blue task forces is specified in Table 3.

Note that the PRIMORYE, denoted by PRIM in the figure, is a red intelligence gathering ship. This type of ship is generally deployed off a blue or grey shore. At the time specified in Figure 3, TF2 is not yet in the ONRODA area, but it is headed that way, having replenished at MID OCEAN Island.

During the following day, there is considerable activity among both blue and red forces in the ONRODA area. Figure 4 shows the activity during the 24 hour period ending at 7702142345. The alerts generated during this period are given in Table 4. The large number of alerts due to "lost" contacts on red ships indicates that red is under a high EMCON condition. Two primary changes in the scenario are the presence of an additional red surface ship south of ONRODA and the movement of the BESSMENY (labelled BESS in the figure). The reported position of the BESSMENY is, however, quite inaccurate (see the Track File, Appendix A). Therefore it is not yet possible to form conclusions about red actions. At midnight, TF2 is still about 120 nm west of the ONRODA area.

The day of February 15 is one of even more activity. The description of events is divided for convenience of description into two parts: before 1700 hours and between 1700 and 2100 hours (current scenario time).

With reference to Figure 5, the earlier part of February 15 is marked by the arrival of TF2 in the ONRODA area, the movements of the BESSMENY and the DODRY, and the detection of an unidentified high-speed aircraft near Yellow City. A list of alerts during this period is given in Table 5. Most significant of these is the change in DEFCON from 4 (Increased Readiness), to 3 (Increased Intelligence Watch). Also significant is the detection of an unknown aircraft at 1655 hours. The other alert conditions advise of old tracks; i.e., tracks for which no update has been made for 4 hours.

The final four hours of this scenario are marked by intensifying crisis. Following the detection of an unknown aricraft at 1655 hours, the weather changes for the worse with heavy rain beginning at 1730 hours. As a result, loss of the track on the aircraft occurs. On the positive side, the RIM-24 weapon system aboard the CHICAGO regains full operational capability at 1745 hours. At 1900 hours an alert is generated that no contact reports on the STOYNY have been received for 4 hours. At 1930, an alert indicates that the fuel reserve level of the COCHRANE has dropped to 60%. Thus, a need to review the underway replenishment plan for TF1 is implied. At 2020 hours an unknown submarine is detected by the FOSTER. This detection is followed by a malfunction in the FOSTER's sonar. The status of this sonar drops from C1 to C3. A SLIM NET radar is detected south of ONRODA Island at 2055 hours. It is not known whether this represents an additional red ship in that area. A list of these alerts is provided in Table 6.

---

*The symbology used in Figures 3-6 is defined in Figure 3.

The track movement during this 4-hour period is given in Figure 6.

This completes the scenario discussion.

Table 1. Criteria for Generating Alerts

A. Change in status of sensor systems

B. Change in status of primary weapon systems

C. Fuel reserve of own ships falling below 60% of capacity

D. Sightings of designated high-interest targets

   (i) First time a high-interest target is sighted

   (ii) For surface ships and submarines, the absence of additional sightings of a previously sighted, high-interest vessel for four hours

   (iii) High-speed aircraft (unknown or hostile)

E. Changes in DEFCON condition

F. Significant changes in the weather

Table 2. Sample List of High-Interest Targets

ELEMENT	VALUE
NAME	DODRY
FRC TYP*	01
FRCTYP	02
FRCTYP	04
FRCTYP	05
EMITTER	SLIM NET

*Force Type

Table 3. Composition of Task Forces

TASK FORCE	SHIPS
1	CV-59
	Cochran
	Chicago
	Spruance
	Truett
	Holt
2	CV-63
	Foster
	Gridley
	Oklahoma City
	Garcia
	Roark

Table 4. Alerts Generated on February 14

DTG	REASON FOR ALERT
7702140330	No contact report on the DODRY for 4 hours.
7702140340	No contact report on the BESSMENY for 4 hours.
7702140500	No contact report on the STOYNY for 4 hours.
7702140840	First contact report on the SEVASTOPOL.
7702141240	No contact report on the SEVASTOPOL for 4 hours.
7702141600	No contact report on the PRIMORYE for 4 hours.

Table 5. Alerts Generated Between 770215000 and 7702151700

DTG	REASON FOR ALERT
7702150200	No contact report on the STOYNY for 4 hours.
7702150335	No contact report on the SEVASTOPOL for 4 hours.
7702150340	No contact report on the BESSMENY for 4 hours.
7702150620	No contact report on the PRIMORYE for 4 hours.
7702150900	No contact report on the STOYNY for 4 hours.
7702151210	No contact report on the SEVASTOPOL for 4 hours.
7702151220	No contact report on the PRIMORYE for 4 hours.
7702151415	No contact report on the DODRY for 4 hours.
7702151630	No contact report on the SEVASTOPOL for 4 hours.
7702151645	Change from DEFCON 4 to DEFCON 3.
7702151655	Unknown high-speed aircraft headed toward fleet.

Table 6. Alerts Generated Between 7702151700 and 7702152100

DTG	REASON FOR ALERT
7702151730	Change in weather to heavy rain.
7702151745	Change in status of the RIM-24 weapon system from C2 to C1 for the CHICAGO.
7702151900	No contact with STOYNY for 4 hours.
7702151930	60% Fuel Reserve Level for the Cochrane.
7702152020	Unknown submarine detected.
7702152030	Change in status of sonar from C1 to C3 for the FOSTER.
7702152055	Hostile surface ship detected.

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL

Figure 1. Track File Format Used In Scenario

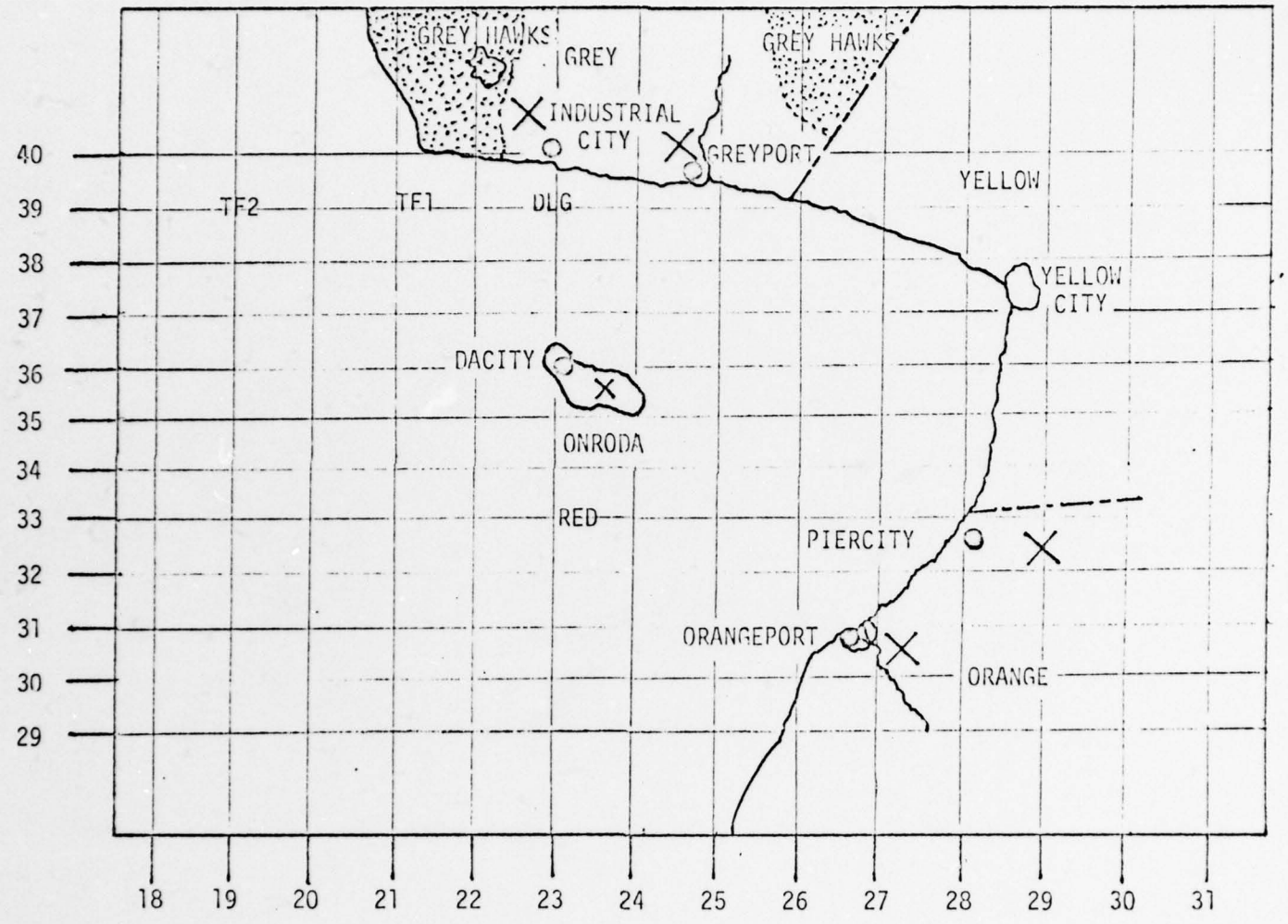

Figure 2. Scenario Guidelines

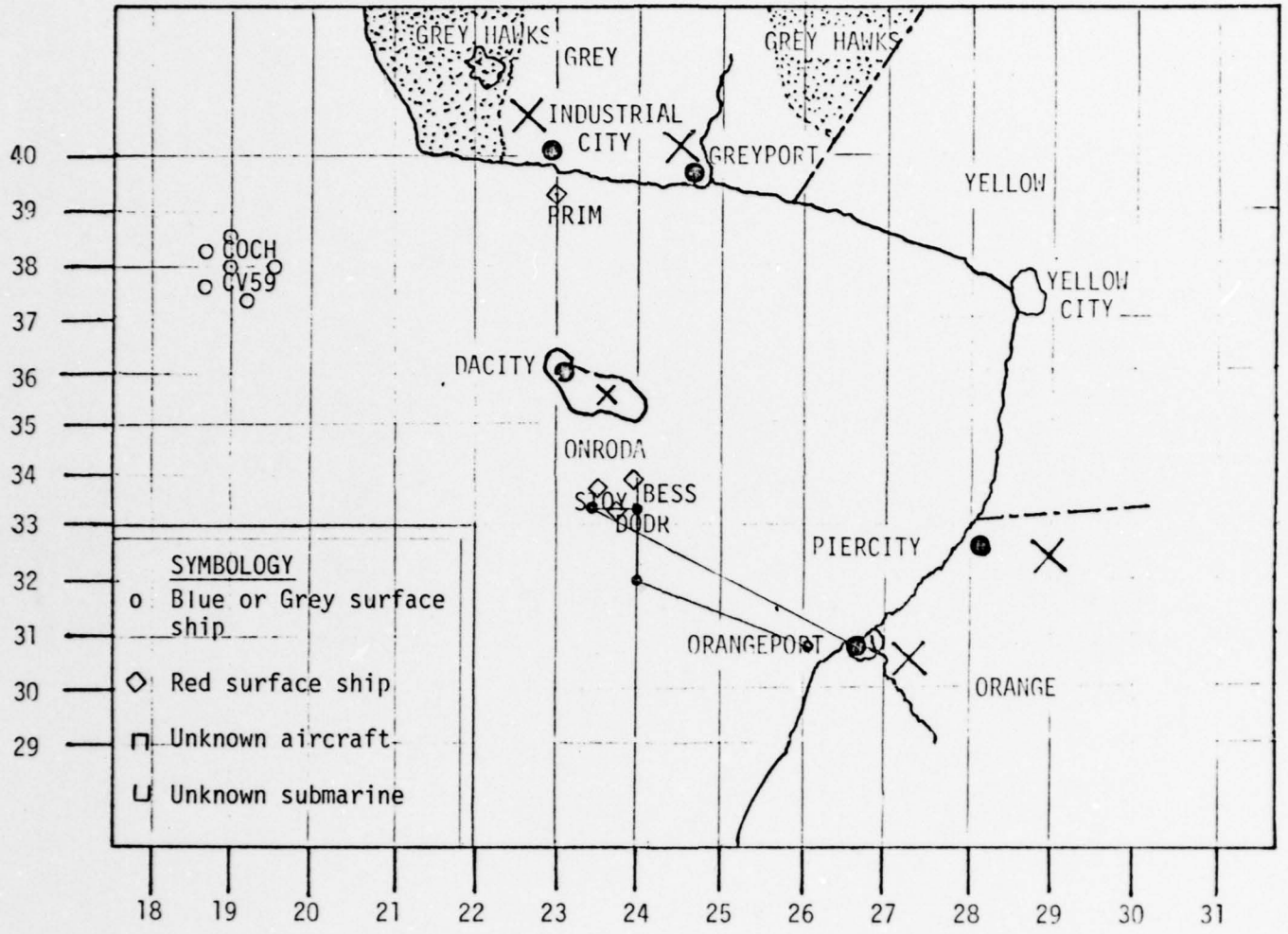

Figure 3. ONRODA Area At 7702132345

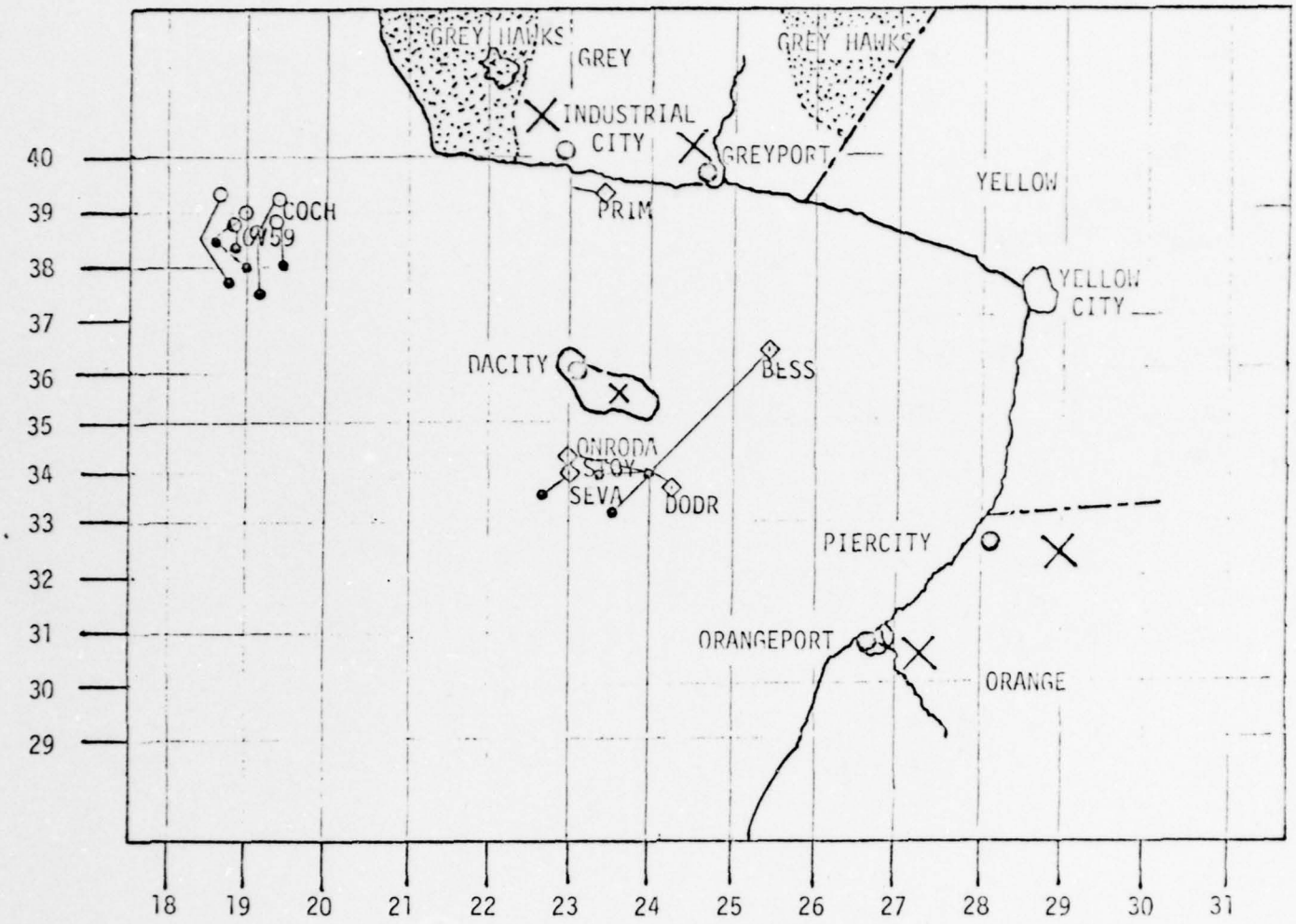

Figure 4. Track Movement in the ONRODA Area
Between 7702132345 and 7702142345

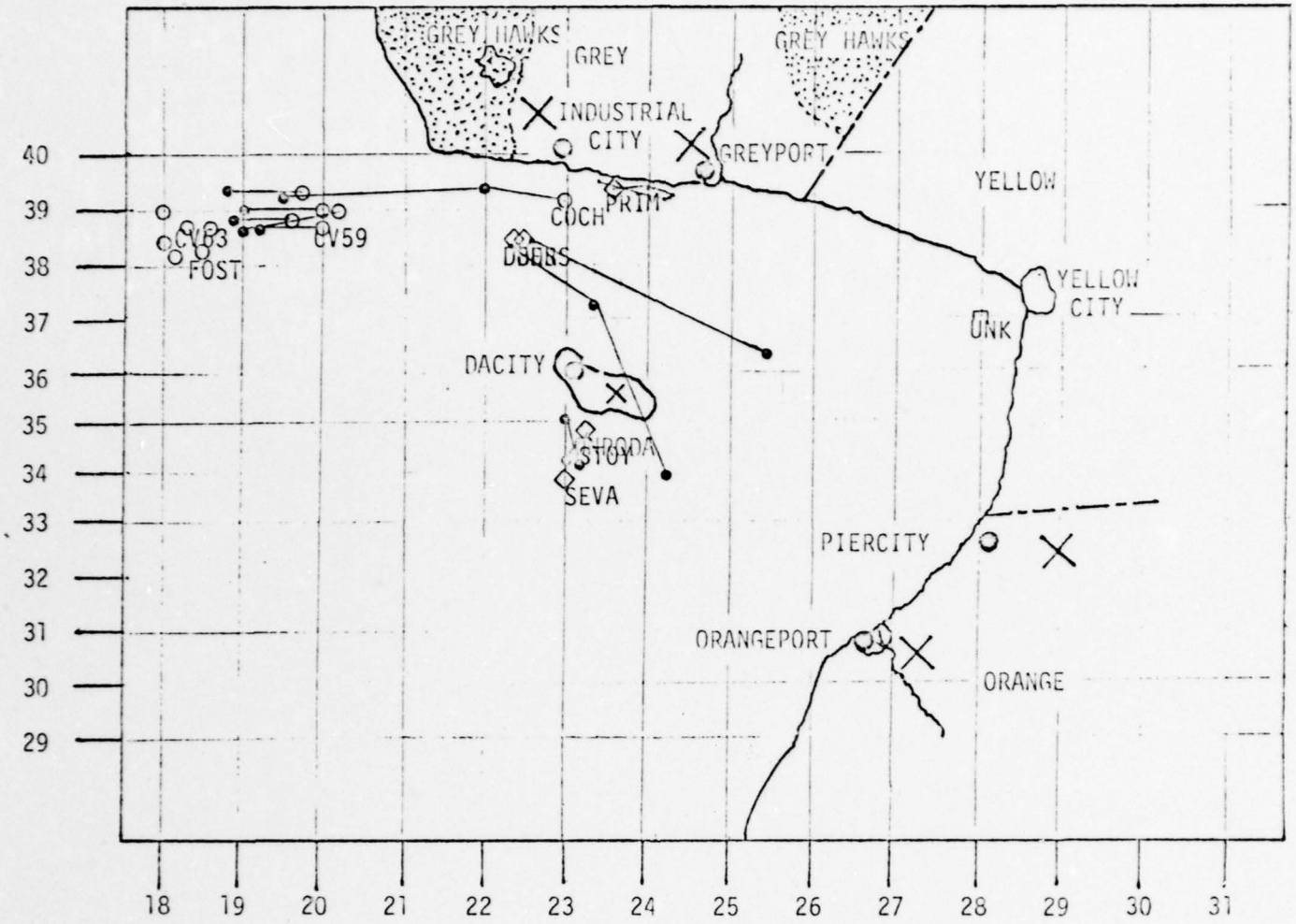

Figure 5. Track Movement in the ONRODA Area Between 7702142345 and 7702151700

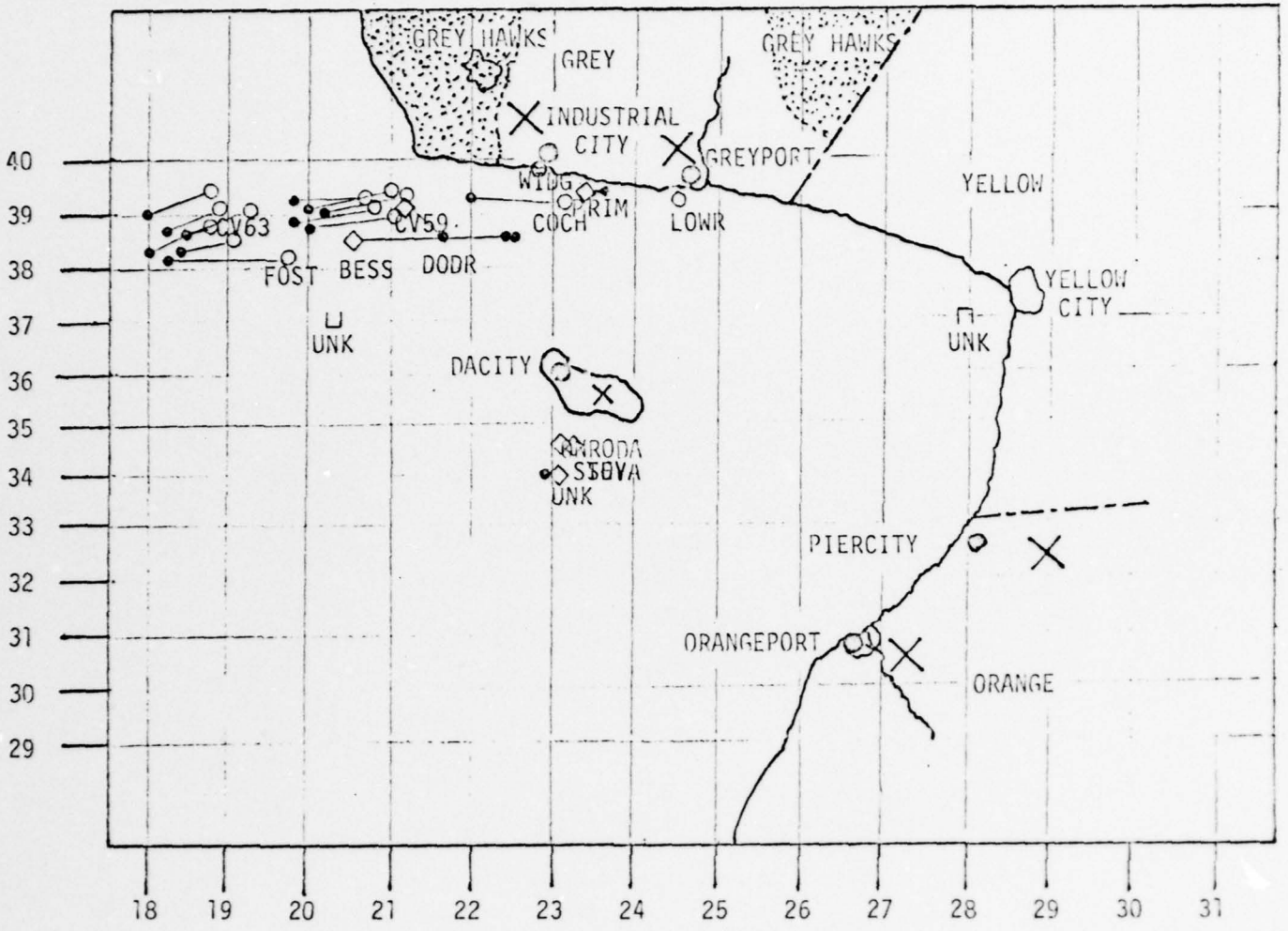

Figure 6. Track Movement in the ONRODA Area Between 7702151700 and 7702152100

REFERENCES

1. J. R. Payne and J. V. Rowney, "ONRODA Warfare Scenario," Stanford Research Institute Research Memorandum NWRC-RM-83, June 1975.

2. J. V. Rowney, "Supplement to ONRODA Warfare Scenario," Stanford Research Institute Working Memorandum NWRC-RM-90, March 1976.

3. CTEC, Inc., "Office of Naval Research Operational Decision Aids (ODA) Program ODA Data Base," Report No. 26056, 27 February 1976.

4. David Root, University of Pennsylvania, 12 June 1978, Private Communication.

APPENDIX A

TRACK FILE

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
1	FOSTER	09	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
045	10	0	38-20N	19-40E	7702152030	1	1	0
			38-20N	18-22E	7702151200			
			36-45N	12-23E	7702141130			
			35-50N	6-20E	7702130100			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
2	UNK	05	UNK	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			37-00N	020-20E	7702152020	10	2	160

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
3	PRIMORYE	07	RDRD	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
270	1		39-25N	23-30E	7702152055	2	2	0
270	20		39-25N	23-40E	7702151530	10	10	0
270	7		39-25N	24-00E	7702151320	2	2	0
70	4		39-25N	24-35E	7702150820	5	5	0
110	3		39-20N	24-15E	7702150220	2	2	0
85	2		39-40N	23-40E	7702141200	2	2	0
			39-30N	23-00E	7702131130	2	2	0
270	4		39-25N	23-32E	7702151840			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
4	BESSMENY	07	RDRD	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
270	20	0	38-35N	20-30E	7702152100	1	1	0
270	20	0	38-30N	21-45E	7702151820	2	2	0
293	13	0	38-30N	22-32E	7702151550	5	5	0
45	10	0	36-15N	25-25E	7702142340	70	40	45
0	0	0	34-00N	24-00E	7702140800	60	40	135
0	6	0	34-00N	24-00E	7702132340	40	20	45
290	3	0	32-00N	24-00E	7702130400	40	40	0
			31-00N	26-00E	7702111830	10	10	0

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
5	CV 59	09	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
70	3		39-15N	21-10E	7702152056			
90	5		39-00N	20-00E	7702150000			
45	3		39-00N	19-00E	7702141200			
325	4		38-30N	18-30E	7702140000			
			38-00N	19-00E	7702131500			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
6	COCHRANE	07	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
90	1		39-20N	23-10E	7702152055			
90	15		39-20N	22-00E	7702150110			
45	4		39-10N	19-30E	7702141215			
			38-30N	19-00E	7702132030			
90	5		39-10N	23-00E	7702151650			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
7	CV63	09	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
	6		39-00N	19-00E	7702152056			
89	15		38-40N	18-20E	7702151200			
75	11		37-00N	12-20E	7702141130			
			35-50N	6-20E	7702130100			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
8	SEVASTOPOL	07	RDRD	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			34-40N	23-23E	7702151805			
			34-00N	22-55E	7702151230			
			35-05N	23-00E	7702150810			
			34-20N	23-10E	7702142335			
			33-50N	22-45E	7702140840			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
9	STOYNY	07	RDRD	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			34-40N	23-20E	7702151500			
			34-23N	23-00E	7702150500			
			34-22N	23-05E	7702142200			
			33-50N	24-10E	7702140850			
			33-50N	23-30E	7702140100			
			33-55N	23-31E	7702131959			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
10	DODRY	07	RDRD	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
320	10	0	39-00N	21-23E	7702152056	1	1	0
270	20	0	38-30N	21-40E	7702151820	2	2	0
308	15	0	38-30N	22-30E	7702151550	5	5	0
339	8	0	37-10N	23-25E	7702151015	30	25	95
141	3	0	33-50N	24-20E	7702140750	60	40	135
26	4	0	34-00N	24-00E	7702132330	40	20	45
270	0	0	33-28N	23-50E	7702131615	10	10	0
90	4	0	33-27N	24-00E	7702130600	5	5	0
300	10	0	33-25N	23-19E	7702121900	50	50	0
		0	30-40N	26-40E	7702111830	10	10	0

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
11	UNK	07	UNK	SLIM NET

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			34-00N	23-00E	7702152055			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
12	LOWRY	09	BLGR	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			39-25N	24-45E	7702151840			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
13	WIDGEON	09	BLGR	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			INDUSTRIAL CITY PORT		7702151840			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
15	GRIDLEY	09	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			39-00N	19-10E	7702152056			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
16	OKLAHOMA CITY	09	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			39-20N	18-50E	7702152056			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
17	GARCIA	09	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			39-00N	18-50E	7702152056			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
18	ROARK	09	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			38-30N	19-10E	7702152056			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
19	CHICAGO	07	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			39-40N	21-05E	7702152056			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
20	SPRUANCE	07	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			39-00N	21-00E	7702152056			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
21	TRUETT	07	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			39-15N	21-15E	7702152056			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
22	HOLT	07	BLBL	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
			38-50N	21-20E	7702152056			

TRACK

NO.	NAME	FORCE TYPE	FLAG	EMITTER
23		02	UNK	

CONTACT REPORT

COURSE	SPEED	ALT	LATITUDE	LONGITUDE	DTG	SMAJ	SMIN	ANGL
280	420	30,000	37-00N	28-00E	7702151655			

APPENDIX B

UPDONR Program
(Update the ONR Data Base)

1.0 FUNCTIONAL DESCRIPTION OF THE UPDONR (UPDATE THE ONR DATA BASE) PROGRAM

The UPDONR program is a means of applying several fixed types of updates to the ODA data base. A data base update in this context refers to a fixed sequence of DBMS calls resulting in some change in the data stored in the data base. The execution of each such sequence utilizes some fixed data values, and some variable values dependent on the particular change being made. In UPDONR, the user specifies the update type he wishes to execute (thus identifying a unique sequence of DBMS calls) followed by the values of the variable data fields. The UPDONR program inserts the values specified by the user into the DBMS call sequence and performs the update.

The initial implementation of UPDONR includes six different update types (ATRACK, ACNTCT, DEFCON, WEATHR, FUEL, and EQUPCR), described below. Using these six update types, all events described in the scenario in this document can be specified.

UPDONR reads commands from a disk file the name of which is specified by the user at run time. UPDONR reads the update commands one at a time, validates command names and data values, prints out error messages if any errors are found, and executes the data base update if the update command was correct.

Included in this implementation of UPDONR is a file named UPDONR.DAT, containing all events comprising the scenario in the format accepted by UPDONR. The events have been arranged in chronological order. In order to allow repeated execution of the scenario events, a file named INIT.DAT is included. INIT.DAT is an indirect command file for DBLOOK, an on-line SEED data base access program. Executing INIT.DAT will initialize the data base in preparation for the scenario events. Thus prior to applying the scenario updates to the data base, the data base must always be initialized by executing DBLOOK with INIT.DAT as an indirect command file.

The UPDONR program has been specifically designed to allow easy addition of new update types. To add a new update type, the user must specify the update type name, the number and type of data fields included in the update command, and finally the sequence of DBMS calls required to execute the specified update type. The data field specification includes the data type of the field (fixed, alphanumeric, or real), field length, and whether or not the field is optional. The parser included in UPDONR will parse each received command line in accordance with the data value specification in the table and convert all received values to data base internal format. The detailed procedure for adding new update types to the UPDONR program is described below.

2.0 EXECUTING THE PROGRAM

Prior to updating the data base with UPDONR, the user should initialize the data base. File INIT.DAT is an indirect command file for DBLOOK to perform that function. Note that INIT.DAT initializes the data base in preparation for a specific set of update transactions.

When executing UPDONR, the user must select one of the following options:

2.1 H - HELP

Selecting this option will cause the program to print out a list of data base update formats acceptable to UPDONR.

2.2 U - UPDATA DB

When this option is selected, the program will request the name of the update file from the user and then apply the updates contained in the file to the data base, notifying the user of any errors.

2.3 P - UPDATE AND PAUSE

This option performs the same function as the previous one except that under this option the program will pause prior to applying each update, allowing the user to perform other actions (such as ALERTS package tests) prior to applying the next data base update.

2.4 E - EXIT

The user selects this option to exit the program.

3.0 UPDONR UPDATE TYPES

An UPDONR command line consists of an update type name followed by data fields associated with this update type, separated by slashes. Each command resides on a separate line and occupies a single line.

UPDONR currently processes six types of data base updates. The following describes in detail the format of each type of update command and the data base changes performed as the result of executing each command.

3.1 ATRACK

Field 1 - Alphanumeric (2 characters); Required; Flag
Field 2 - Numeric; Required; Track Number
Field 3 - Alphanumeric (20 characters); Required; Track Name
Field 4 - Numeric; Required; Force Type

ATRACK adds a track record to the data base and links it to the track group record with a flag field matching the flag specified in the command line.

3.2 ACNTCT

Field 1 - Numeric; Required; Track Number
Field 2 - Numeric; Optional; Course (degrees)
Field 3 - Numeric; Optional; Speed (knots)
Field 4 - Numeric; Optional; Altitude (feet)
Field 5 - Alphanumeric (7 characters); Required; Latitude
Field 6 - Alphanumeric (8 characters); Required; Longitude
Field 7 - Alphanumeric (10 characters); Required; DTG
Field 8 - Numeric; Optional; Semi-major Axis
Field 9 - Numeric; Optional; Semi-minor Axis
Field 10 - Numeric; Optional; Angle of Orientation
Field 11 - Alphanumeric (30 characters); Optional; Emitter

ACNTCT adds the specified contact report record to the data base track whose number is specified in the command. It also changes the DTG record to the value specified in the command.

3.3 DEFCON

Field 1 - Alphanumeric (10 characters); Required; DTG
Field 2 - Numeric; Required; DEFCON

The DEFCON command updates the data base DEFCON and DTG records to values specified in the command.

3.4 WEATHR

Field 1 - Alphanumeric (10 characters); Required; DTG
Field 2 - Alphanumeric (2 characters); Required; Precipitation Type
Field 3 - Real; Required; Precipitation Rate

WEATHR updates the data base DTG record and creates a new weather record for the ONRODA ISLAND area. The weather record created is identical to the latest existing weather record except for DTG and precipitation type and rate fields, which are taken from the command line.

3.5 FUEL

Field 1 - Alphanumeric (10 characters); Required; DTG
Field 2 - Alphanumeric (30 characters); Required; Ship Name
Field 3 - Numeric; Required; Percent Fuel Aboard

FUEL updates the data base DTG record and creates a new ship status record for the specified ship. The ship status record created is identical to the latest existing ship status record for the specified ship except for DTG and fuel aboard fields which are taken from the command line.

3.6 EQUPCR

Field 1 - Alphanumeric (10 characters); Required; DTG
Field 2 - Alphanumeric (30 characters); Required; Ship Name
Field 3 - Alphanumeric (30 characters); Required; Equipment Designator
Field 4 - Alphanumeric (1 character); Required; Equipment Readiness

EQUPCR updates the data base DTG record; finds the hull number corresponding to the specified ship name; creates an equipment casualty report record for the specified ship and equipment; and links the newly created record to the ship record it refers to.

4.0 FILES COMPRISING THE UPDONR PROGRAM

The UPDONR program consists of the following source files:

1. UPDONR.DOC - UPDONR program documentation

2. INIT.DAT - File of DBLOOK commands to initialize the data base for the ALERTS package tests

3. UPDONR.DAT - File of data base updates in support of the ALERTS package tests (see Section 6.0)

4. CMNDAT.CMN - FORTRAN common block description

5. UPDONR.FOR - Main program whose function is to interact with the user, read in data base updates, call a subroutine to parse update lines, and call the appropriate subroutine to perform the requested data base update

6. PARSE.FR1 - PARSE subroutine name

7. PARSE.FOR - Subroutine to parse each line, identify its type, and extract, check and decode all fields

8. PRLIN.FR1 - PRLIN subroutine name

9. PRLIN.FOR - Subroutine to print an update line

10. ATRACK.FR1 - ATRACK subroutine name

11. ATRACK.FOR - Subroutine to add a new track record to the data base

12. ACNTCT.FR1 - ACNTCT subroutine name

13. ACNTCT.FOR - Subroutine to add a new contact record to the data base

14. DEFCON.FR1 - DEFCON subroutine name

15. DEFCON.FOR - Subroutine to change DEFCON

16. WEATHR.FR1 - WEATHR subroutine name

17. WEATHR.FOR - Subroutine to change weather in ONRODA area

18. FUEL.FR1 - FUEL subroutine name

19. FUEL.FOR - Subroutine to change fuel reserve on ship

20. EQUPCR.FR1 - EQUPCR subroutine name

21. EQUPCR.FOR - Subroutine to create an equipment casualty report record

22. UPDONR.CMD - Command file to compile and link UPDONR

5.0 ALTERING THE UPDONR PROGRAM

The UPDONR program has been written to allow for easy addition of new types of updates. In order to implement new types of updates in the future, it may also be necessary to expand some of the tables included in the program. The following describes the procedures for adding new types of updates when no table expansion is required as well as the procedures for expanding the program's tables.

5.1 Adding a New Type of Update (No Table Expansion)

A. In UPDONR.FOR change the value of LTYPTB
B. In UPDONR.FOR change the velue of FTYPTB
C. In UPDONR.FOR add new line to the HELP message
D. In UPDONR.FOR add a call to new subroutine to process the update
E. Write a new subroutine to perform the data base update

The subroutine should assume that the data base is already open, and all fields from the update line are extracted, reformatted and contained in the array LINFLD. The fields are decoded and ready to transfer directly to the data base item fields. The subroutine should print out its own error messages and reset ERRSTA to Ø.

5.2 Expanding Tables to Allow More Types of Updates

A. In CMNDAT.CMN change second dimension of LTYPTB
B. In CMNDAT.CMN change second dimension of FTYPTB
C. In UPDONR.FOR change the value of MXLTYP
D. In UPDONR.FOR change the value of LTYPTB
E. In UPDONR.FOR change the value of FTYPTB

5.3 Expanding Tables to Allow Longer Input Lines

A. In CMNDAT.CMN change the dimension of LINDAT
B. In UPDONR.FOR change the value of MXLLEN

5.4 Changing Maximum Length of Line Name

A. In CMNDAT.CMN change the first dimension of LTYPTB
B. In UPDONR.FOR change the value of LTYPTB
C. In UPDONR.FOR change the value of MXPLNM
D. In UPDONR.FOR change the value of MXULNM

5.5 Expanding Tables to Allow More Fields per Line

A. In CMNDAT.CMN change the dimension of FLDBEG
B. In CMNDAT.CMN change the dimension of FLDEND
C. In CMNDAT.CMN change the dimension of FLDLEN
D. In CMNDAT.CMN change the second dimension of LINFLD and RFLD
E. In CMNDAT.CMN change the first dimension of FTYPTB
F. In UPDONR.FOR change the value of MXFLDS
G. In UPDONR.FOR change the value of FTYPTB

5.6 Expanding Tables to Increase Maximum Data Field Length

A. In CMNDAT,CMN change the dimension of UFLD
B. In CMNDAT.CMN change the dimension of PFLD
C. In CMNDAT.CMN change the first dimension of LINFLD and RFLD
D. In UPDONR.FOR change the value of MXPFLN
E. In UPDONR.FOR change the value of MXUFLN

6.0 CURRENT FILE OF DATA BASE UPDATES TO SUPPORT ALERT CAPABILITY TEST

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ATRACK/RD/4/PESSMENY/7
ACNTCT/4////31-00N/26-00E/7702111830/10/10
ATRACK/RD/10/DOLRY/7
ACNTCT/10////30-40N/26-40E/7702111830/10/10
ACNTCT/10/300/10//33-25N/23-19E/7702121900/50/50
ATRACK/BL/1/FOSTER PF/9
ACNTCT/1////35-50N/6-20E/7702130100
ATRACK/BL/7/CV63/9
ACNTCT/7////35-50N/6-20E/7702130100
ACNTCT/4/290/3//32-00N/24-00E/7702130400/40/40
ACNTCT/10/90/4//33-27N/24-00E/7702130600/5/5
ATRACK/RD/3/PRIMORYE/7
ACNTCT/3////39-30N/23-00E/7702131130/2/2
ATRACK/BL/5/CV59/9
ACNTCT/5////38-00N/19-00E/7702131500
ACNTCT/10/270///33-28N/23-50E/7702131615/10/10
ATRACK/RD/9/STOYNY/7
ACNTCT/9////33-55N/23-31E/7702131959
ATRACK/BL/6/COCHRANE/7
ACNTCT/6////38-30N/19-00E/7702132030
ACNTCT/10/26/4//34-00N/24-00E/7702132330/40/20/45
ACNTCT/4//6//34-00N/24-00E/7702132340/40/20/45
ACNTCT/5/325/4//38-30N/18-30E/7702140000
ACNTCT/9////33-50N/23-30E/7702140100
ACNTCT/10/141/3//33-50N/24-20E/7702140750/60/40/135
ACNTCT/4////34-00N/24-00E/7702140800/60/40/135
ATRACK/RD/8/SEVASTOPOL/7
ACNTCT/8////33-50N/22-45E/7702140840
ACNTCT/9////33-50N/24-10E/7702140850
ACNTCT/1////36-45N/12-23E/7702141130
ACNTCT/7/75/11//37-00N/12-20E/7702141130
ACNTCT/3/85/2//39-40N/23-40E/7702141200/2/2
ACNTCT/5/45/3//39-00N/19-00E/7702141200
ACNTCT/6/45/4//39-10N/19-30E/7702141215
ACNTCT/9////34-22N/23-05E/7702142200
ACNTCT/8////34-20N/23-10E/7702142335
ACNTCT/4/45/10//36-15N/25-25E/7702142340/70/40/45
ACNTCT/5/90/5//39-00N/20-00E/7702150000
ACNTCT/6/90/15//39-20N/22-00E/7702150110
ACNTCT/3/110/3//39-20N/24-15E/7702150220/2/2
ACNTCT/9////34-23N/23-00E/7702150500
ACNTCT/8////35-05N/23-00E/7702150810
ACNTCT/3/70/4//39-25N/24-35E/7702150820/5/5
ACNTCT/10/339/8//37-10N/23-25E/7702151015/30/25/95
ACNTCT/1////38-20N/18-22E/7702151200
ACNTCT/7/89/15//38-40N/18-20E/7702151200
ACNTCT/8////34-00N/22-55E/7702151230
ACNTCT/3/270/7//39-25N/24-00E/7702151320/2/2
ACNTCT/9////34-40N/23-20E/7702151500
ACNTCT/3/270/20//39-25N/23-40E/7702151530/10/10
ACNTCT/4/293/13//38-30N/22-32E/7702151550/5/5
ACNTCT/10/308/15//38-30N/22-30E/7702151550/5/5
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DEFCON/7702151645/3
ACNTCT/6/90/5//39-10N/23-00E/7702151650
ATRACK/NO/23/ /2
ACNTCT/23/280/420/30000/37-00N/28-00E/7702151655
WEATHR/7702151730/RN/1.1
EQUPCR/7702151745/CHICAGO/RIM-24/1
ACNTCT/8////34-40N/23-23E/7702151805
ACNTCT/4/270/20//38-30N/21-45E/7702151820/2/2
ACNTCT/10/270/20//38-30N/21-40E/7702151820/2/2
ACNTCT/3/270/4//39-25N/23-32E/7702151840
ATRACK/BL/12/LOWRY/9
ACNTCT/12////39-25N/24-45E/7702151840
ATRACK/BL/13/WIDGEON/9
ACNTCT/13////40-00N/23-00E/7702151840
FUEL/7702151930/COCHRANE/60
ATRACK/NO/2/UNK/5
ACNTCT/2////37-00N/20-20E/7702152020/10/2/160
ACNTCT/1/45/10//38-20N/19-40E/7702152030/1/1
EQUPCR/7702152030/FOSTER PF/SONAR/3
ACNTCT/3/270/1//39-25N/23-30E/7702152055/2/2
ACNTCT/6/90/1//39-20N/23-10E/7702152055
ATRACK/NC/11/UNK/7
ACNTCT/11////34-00N/23-00E/7702152055////SLIM NET
ACNTCT/5/70/3//39-15N/21-10E/7702152056
ACNTCT/7//6//39-00N/19-00E/7702152056
ACNTCT/10/320/10//39-00N/21-23E/7702152056/1/1
ATRACK/BL/15/GRIDLEY/9
ACNTCT/15////39-00N/19-10E/7702152056
ATRACK/BL/16/OKLAHOMA CITY/9
ACNTCT/16////39-20N/18-50E/7702152056
ATRACK/BL/17/GARCIA/9
ACNTCT/17////39-00N/18-50E/7702152056
ATRACK/BL/18/ROARK/9
ACNTCT/18////38-30N/19-10E/7702152056
ATRACK/BL/19/CHICAGO/7
ACNTCT/19////39-40N/21-05E/7702152056
ATRACK/BL/20/SPRUANCE/7
ACNTCT/20////39-00N/21-00E/7702152056
ATRACK/BL/21/TRUETT/7
ACNTCT/21////39-15N/21-15E/7702152056
ATRACK/BL/22/HOLT/7
ACNTCT/22////38-50N/21-20E/7702152056
ACNTCT/4/270/20//38-35N/20-30E/7702152100/1/1
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